CLAIMS:

1. A transducing head positioning system, the system comprising:
patterned data storage media comprising a plurality of data tracks and forming a first portion of an electrostatic motor; and
a slider carrying a second portion of the electrostatic motor, wherein the electrostatic motor is used to position a transducing head above a selected data track on the patterned storage media.

2. The transducing head positioning system of claim 1 wherein the plurality of data tracks comprises concentric data tracks.

3. The transducing head positioning system of claim 2 wherein each concentric data track comprises a raised track and a groove.

4. The transducing head positioning system of claim 3 wherein a pitch of each data track is about 2 microinches.

5. The transducing head positioning system of claim 3 wherein the second portion of the electrostatic motor comprises a plurality of electrodes located on a media opposing surface of the slider.

6. The transducing head positioning system of claim 5 wherein a width of the electrodes is about equal to a width of the raised tracks on the patterned storage media.

7. The transducing head positioning system of claim 6 wherein a ratio of the electrodes on the slider to the data track spacing on the patterned storage media is 4 data tracks to 3 electrodes.

8. The transducing head positioning system of claim 7 and further comprising a linear actuator for positioning the slider.

9. The transducing head positioning system of claim 5 wherein the plurality of electrodes further comprises:

a plurality of phase one electrodes;

a plurality of phase two electrodes; and

a plurality of phase three electrodes.

10. An electrostatic slider positioning system, the system comprising:

patterned media comprising a plurality of data tracks; and

a slider located proximate the patterned media, wherein the slider includes a plurality of electrodes configured to be selectively activated to cause an electrostatic attraction between an electrode and a data track..

11. The electrostatic slider positioning system of claim 10 wherein each data track comprises a track and a groove.

12. The electrostatic slider positioning system of claim 11 wherein the plurality of electrodes on the slider and the plurality of data tracks on the patterned media form an electrostatic motor.

13. The electrostatic slider positioning system of claim 12 wherein a width of each electrode is about the same as a width of a track on the disc.

14. The electrostatic slider positioning system of claim 13 wherein a ratio of the spacing of the electrodes on the slider to the spacing of the data tracks on the patterned storage media is 4 data tracks to 3 electrodes.

15. The electrostatic slider positioning system of claim 13 wherein the electrodes have a length which allows the electrodes follow a curvature of data tracks at both an inner and an outer diameter of the disc.

16. The electrostatic slider positioning system of claim 15 and further comprising means for linear actuation of the slider as it tracks over the surface of the disc.

17. The electrostatic slider positioning system of claim 12 wherein the plurality of electrodes on the slider comprises:

a first phase electrode;

a second phase electrode; and

a third phase electrode.

18. The electrostatic slider positioning system of claim 17 and further comprising a control system for controlling the electrostatic motor by selectively applying a voltage to the first, second, and third phase electrodes.

19. A method of controlling the position of a transducing head above the surface of a patterned electronic storage medium, the method comprising:

suspending a slider above a surface of the storage medium, wherein the slider comprises a plurality of electrodes on a storage medium opposing surface; and

moving the transducing head to a desired data track on the storage medium by actuating an electrostatic motor formed by the plurality of electrodes on the slider and tracks on the patterned electronic storage medium.

20. The method of claim 19 and further comprising coarsely positioning the slider using a linear actuator.

21. The method of claim 19 wherein actuating the electrostatic motor comprises applying a voltage to an electrode of the electrostatic motor to create an electrostatic attraction between the electrode and a track on the medium.

22. The method of claim 21 wherein actuating the electrostatic motor further comprises applying a voltage to selected electrodes.

23. The method of claim 22 wherein applying a voltage to selected electrodes comprises:

configuring the plurality of electrodes to comprise a first phase electrode, a second phase electrode, and a third phase electrodes; and

controlling the application of a voltage to the first, second, and third phase electrodes to move the slider across the storage medium.